

THE MELANOPLI OF KANSAS. — III.

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FEMUR-RUBRUM SERIES.

M. femur-rubrum DeGeer.—The specimens taken in Ford county vary from the description of Scudder in having the general ground color, fuscous, a noticeable yellowish tinge on the genae; and head rather heavily infuscated instead of olivaceo-plumbeus as Scudder described it, and as the forms in the eastern part of the State show. Hind femora not olivaceo-testaceous but rather flavo-testaceous, roseate below. Hind tibiae of one specimen bright red, other slightly tinged with red. End of abdomen not very strongly recurved in males. The cerci differ slightly from Scudder's figures, being broader at the base and more tapering in the basal half. Quite generally distributed over the State. Noticeably supplanted, however, in Douglas county within the last ten years by *M. atlantis*.

CINEREUS SERIES.

M. bispinosus Scudder.—Of this we have but one male from Ford county, July. It answers Scudder's description with the following exceptions: Interspaces between mesosternal lobes hardly twice as long as broad; Scudder says "fully twice as long," prozona not quadrate but slightly elongate, anterior margin hardly "truncate," but

broadly and shallowly notched mesially. In the length of the prozona it tends towards *M. terminalis*, a closely allied species, but in the characteristics of the male abdominal appendages it agrees perfectly with Scudder's description and figure of *M. bispinosus*. This is a species first described by Scudder in his Revision and reported only from Texas.

PACKARDII SERIES.

M. packardii Scudder.—Median carina sometimes but rarely marked on prozona by a fine sharp black line. Medio-dorsal stripe varies both in intensity of color and in breadth; in color from testaceous to dark fuscous, in breadth from one third to one half the width of the prozona. In the blue-legged variety the stripe is darker and more clearly defined than in those with red hind tibiae and shows a stronger tendency to taper to a point on the metazona. Sub-genital plate sub-equal, generally broader than long, rarely only as broad as long.

Ford county seven females, Hamilton county one male, Finney county three males and one female, Russell county two females and one male, July. Ten of these had blue hind tibiae and five red. They were common in the alfalfa fields of Ford and Edwards coun-

ties and were observed ovipositing in these fields September first.

COLLINUS SERIES.

M. minor Scudder.—Exceptions to description of Scudder:—prosternal spine strongly appressed (Scudder says "More or less") and strongly inclined caudad, head not very prominent, metazona very slightly expanded if at all; specimen had hind tibiae of pale glaucous color. Of supra-anal plate Scudder says, "triangular with acute-angulate apex, nearly flat, with narrowly moderately deep median sulcus between rather prominent ridges which are confluent apically, and terminate a little behind the middle of the plate." The specimen in hand would be perhaps better described as spherico-triangular and slightly elevated in the region of the median sulcus. In other respects conforming to the description.

One male, Ford county. Now first reported from Kansas.

ROBUSTUS SERIES.

M. differentialis Uhler.—Frontal costa generally equal, but rather frequently, slightly expanded at the ocellus, angle of hind margin of metazona decidedly more obtuse in the male. All the transverse sulci of the pronotum are deeply marked with fuscous on lateral lobes especially the middle sulcus. In the insects of this species in which the ground color is light or "yellowish testaceous" there is a

strong tendency to marbling of the face and pronotum, with darker testaceous which is frequently localized in three quarters: first, as two diverging stripes upon the vertex, second as irregular clouds upon the face, third as spots principally on the disk of the pronotum whose outlines follow but do not coincide with those of the blackish fuscous of the sulci.

This is the most common native species in Kansas and at times occurs locally in such numbers as to cause considerable damage. It is quite partial to alfalfa and by reason of this early food plant it thrives in undue numbers in the vicinity of such fields. It occurs throughout the State wherever cultivated land is to be found. In the high plains of western Kansas it may be found in the vicinity of plowed lands or weeds growing upon the same, but never appears to venture far out on the plains away from this class of food. The black variety is not uncommon. Bruner speaks of this species as inhabiting low and moist places. Though locally destructive in the Arkansas valley we have observed it as equally active and numerous upon the high plains.

BIVITATUS SERIES.

M. bivitatus Say.—This species occurs under the same conditions as *M. differentialis* but not in such great numbers. It matures about the middle of June in Edwards and Ford counties nearly two weeks before *M.*

differentialis passes through the last moult.

PHOETALIOTES.

P. nebrascensis Thos.—Four specimens from Ford county, two of each variety (*P. n. nebrascensis* and *P. n. volucris*). Structural characteristics conform well with the description, except that in three of the four cases the fastigium is plainly sulcate. The other specimen — *P. n. nebrascensis* corroborated the description of Scudder. Prosternal spine not "erect"

but slightly recumbent. Extremity of male abdomen only feebly clavate.

In the short winged variety *P. n. nebrascensis*, the two specimens at hand show marked variation in tegmina; alike in width, they differ in length, and in the form of distal extremity. The specimens agree in size, but tegmina are six and nine mm. in length respectively. The shorter tegmina end more abruptly and the apex is more acute than in the longer wing.

Two males of each variety from Ford Co., July.

THE CLEAR-WINGED SPECIES OF THE OEDIPODINE GENUS MESTOBREGMA.

BY SAMUEL H. SCUDDER, CAMBRIDGE, MASS.

Most of the described species of the genus *Mestobregma*, like the type of the genus, have the wings distinctly crossed mesially by a fuscous band of greater or less width. In one species, however, *M. kiowa* Thom., the wings are pellucid, except for the fuscous veins and for the occasional faint clouding of the wings at the normal point for the band, or the heavier infuscation of the cross-veins in this region.

In the collections brought from the Pacific coast by Mr. A. P. Morse, are three species of the genus with wings showing at most no greater indication of a cross-band than in the species mentioned; indeed one of them is that species, which has never before been record-

ed from west of Utah. They were found in successively more southern regions. The broad-winged form, *M. kiowa*, was obtained only in northern California near Mt. Shasta. The narrow-winged species occurred, one, *M. hyalinum*, in the San Joachin valley from the latitude of San Francisco to that of Los Angeles, the other, *M. rosaceum*, from the southern edge of the San Joachin valley to Yuma, Arizona.

The species may be separated as follows:—

Table of the clear-winged species of Mestobregma.

a¹. Median carina of pronotum nearly obliterated between the sulci, here no